Gulf Cooperation Council

EDICT OF GOVERNMENT

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GSO 2130 (2010) (English): Spices and condiments – Star anise (lllicium verum Hook. f.) – Specification (Draft Standard)

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هيئة التقييس لدول مجلس التعاون الخليجي
GCC STANDARDIZATION ORGANIZATION (GSO)

مشروع هيئي

GSO 05/FDS/ ISO 11178:2001 (E)
ISO 11178:1995

التوابل والبهارات – اليانسون النجمي - المواصفات
Spices and condiments – Star anise *(Illicium verum Hook. f.)* – Specification

إعداد
اللجنة الفنية لتخصصية لقطاع الصناعات الغذائية والزراعية

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ICS:67.220.10

تقديم

Foreword

GCC Standardization Organization (GSO) is a regional Organization which consists of the National Standards Bodies of GCC member States. One of GSO main functions is to issue Gulf Standards /Technical regulations through specialized technical committees (TCs).

GSO through the technical program of committee TC No.:5 "Gulf technical committee for standards of food and agriculture products". Has adopted the international standard No. ISO 11178:1995 "Spices and condiments – Star anise (*lllicium verum Hook. f.*) – Specification " issued by International Organization for Standardization which has been translated into Arabic. The Draft Standard has been prepared by United Arab Emirates.

This standard has been approved as a Gulf (Standard / Technical Regulation) without any technical modifications by GSO Board of Directors in its meeting No. ( ), held on / / H, / / G.

Spices and condiments – Star anise (*Illicium verum Hook. f.*) - Specification

1. Scope

This Gulf Standard specifies requirements for the dried fruits of the star anise tree (*Illicium verum Hook. f.*).

Recommendations relating to the conditions of storage and transport are given in annex B.

2. Normative references

2.1 GSO ISO 927, Spices and condiments — Determination of extraneous matter content.

2.2 GSO ISO 928, Spices and condiments — Determination of total ash.

2.3 ISO 939, Spices and condiments — Determination of moisture content – Entrainment method.

4.2 GSO ISO 948 : " Spices and condiments — Sampling .

2.5 GSO ISO 6571, Spices , condiments and herbs — Determination of volatile oil content.

2.6 GSO 9, Labeling of Prepackaged Foodstuffs.

3. Description (see figures 1 and 2)

Star anise is the dried mature fruit of the evergreen tree *Illicium verum Hook. f.*, of the family *Illiaceae*.

The fruit usually comprises eight boat-shaped follicles, each 12 mm to 15 mm in length, arranged radially around a central stalk.

4. Requirements

4.1 Colour

The colour of star anise shall be brownish red or reddish brown.

4.2 Odour and flavour

Star anise has a characteristic odour and an aromatic, sweet and anise-like flavour.

4.3 Freedom from insects, moulds:

Star anise shall be free from living insects and shall be practically free from moulds, dead insects, insect fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision) or with such magnification as may be necessary in any particular case. If the magnification exceeds x 10, this fact shall be mentioned in the test report.

4.4 Extraneous matter

For the purposes of this Gulf Standard, all that does not belong to the star anise fruit and all other extraneous matter of animal, vegetable or mineral origin shall be considered as extraneous matter.

The total percentage of extraneous matter in star anise shall not be more than 2 % (m/m). The pro- Portion of stalks shall not be more than 3 % (m/m) when determined by the method specified in GSO ISO 927.

4.5 Broken and abnormal fruits

Broken fruits are classed as fruits which contain fewer than five follicles, while abnormal or undeveloped fruits are categorized as those containing three or more under-developed follicles. The Proportion of broken and abnormal fruits shall not be more than 25 % (m/m) when tested by the method specified in annex A.

4.6 Number of fruits per 100 g

The number of star anise fruits shall not be less than130 per 100 g when tested by the method specified in annex A.

4.7 Chemical requirements

Star anise shall comply with the requirements specified in table 1 when tested by the specified method.

Table 1 - Chemical requirements of star anise

Characteristic	Requirement	Test method
Moisture content, % (m/m), max.	10	ISO 939
Total ash, % (m/m) on dry basis, max.	4	GSO ISO 928
Volatile oils, %(ml/l00 g) on dry basis, min.	8	GSO ISO 6571

NOTE 1 An example of a typical gas chromatogram of the volatile oil of star anise is shown in annex C.

8.4 Packing

Star anise shall be packed in clean and Sound packages made of a material which does not affect the product but which protects it from the ingress or loss of moisture and volatile matter.

5. Sampling

Sampling shall be carried out as specified in GSO ISO 948.

6. Test methods

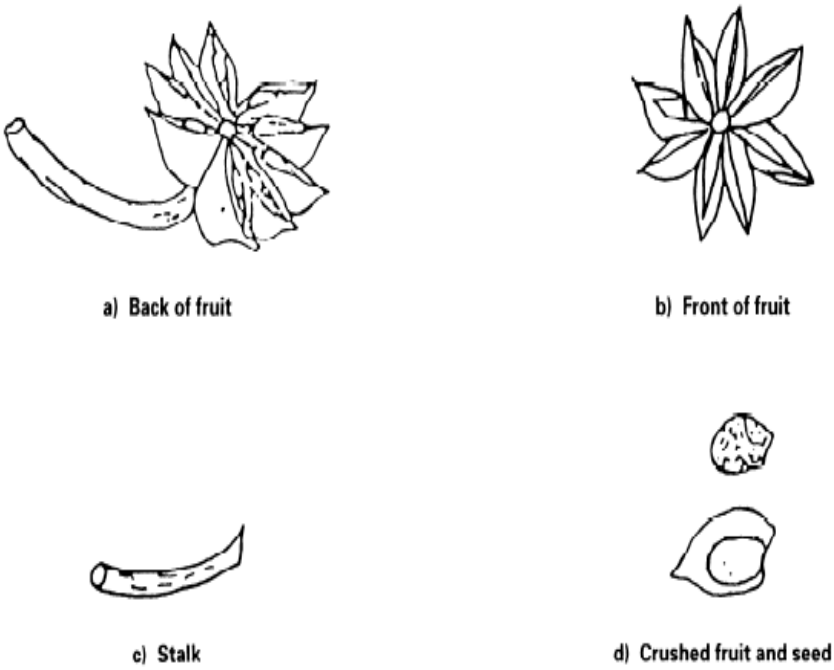
Samples of star anise shall be analysed to ensure conformity with the requirements of this International Standard by following the methods of physical and Chemical analysis specified in 4.3 to 4.7.

7 labeling

Without prejudice to what is stated in the GSO standards mentioned in 2.6 the following information shall be labeled on the containers:

7.1 name of the product and the trade name;
7.2 name and address of the Producer or packer, or trademark;
7.3 batch or code number;
7.4 net mass;
7.5 producing country ;
7.6 destination, i.e. name of the port or the City; and, if required,
7.7 any other marking required by the purchaser , such as year of harvest and date of packing (if Known);
7.8 possibly, a reference to this Standard.

Figure 1 — Twig of star anise tree with fruit and flower



a) Back of fruit

b) Front of fruit

c) Stalk

d) Crushed fruit and seed

Figure 2 — Schematic details of various parts of the star anise fruit

Annex A
(normative)

Method for the determination of the number of fruits of star anise per 100 g and the content of broken and abnormal fruits

A. 1 Principle

Determination by counting the number of whole fruits in a 100 g Sample. Separation and weighing of the broken and abnormal fruits contained in that Sample.

A.2 Apparatus

A.2.1 Weighing balance, capable of weighing to an accuracy of ±1 g.
A.2.2 Cloth, for loading Sample.

A.3 Number of fruits per 100 g

A.3.1 Procedure

Weigh a 100 g Sample of star anise in accordance with the method given in GSO ISO 948. Count the number of whole fruits (see 4.5).

A.3.2 Expression of results

A whole fruit has eight follicles. Fruit containing fewer than eight follicles tan be regarded as a whole fruit if the number of follicles is made up to eight with the follicles in the broken fruit. If the number of follicles left at the end of counting equals or exceeds five, these tan be considered as one fruit.

A.4 Content of broken and abnormal fruits

A.4.1 Procedure

Spread out the 100 g Sample used in A.3, then place on the cloth (A.2.2) the broken and abnormal fruits.
Weigh these and record the result.

A.4.2 Expression of results

The content of broken and abnormal fruits, expressed as a percentage by mass, is equal to

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the Sample of star anise (A.3.1);

m_1 is the mass, in grams, of broken and abnormal fruits of star anise (A.4.1).

Annex B
(informative)
Recommendations for the storage and transport of star anise

B.I The store room should be dry, clean and well ventilated, and free from objectionable odour.

B.2 If a Stack of star anise is temporarily stored in the open air, covering materials should be used to protect the Stack from rain and sun. The distance between the bottom of the Stack and the ground level should be more than 30 cm.

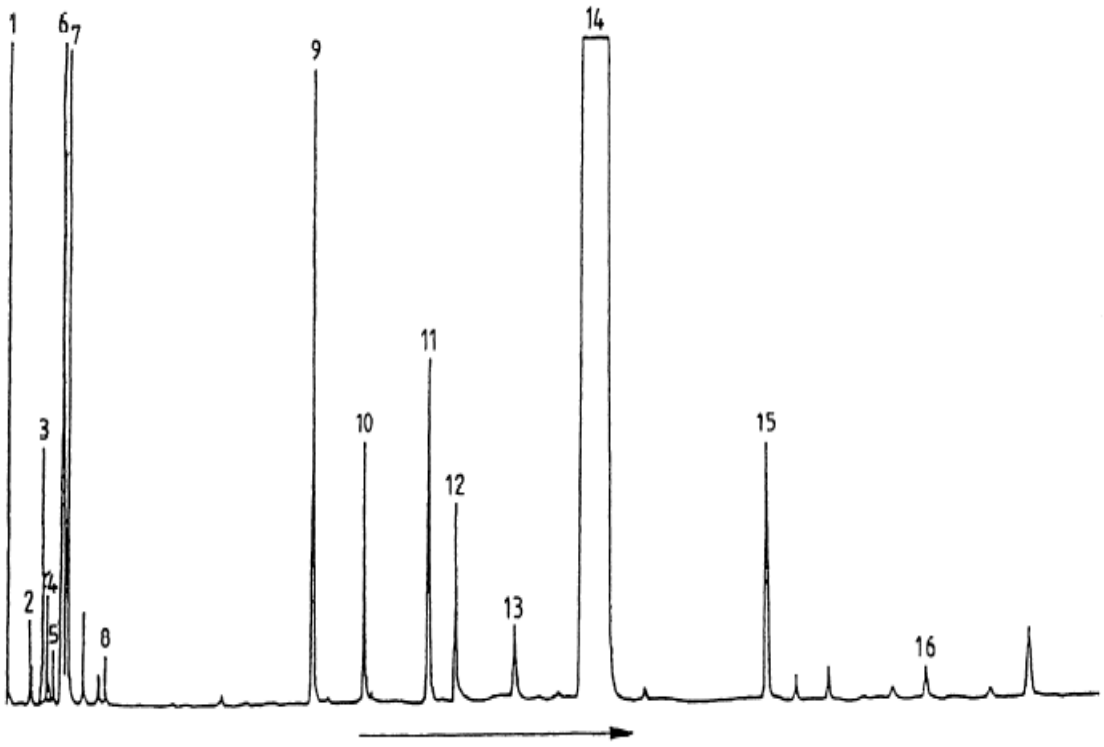
B3 . The transport carrier should be clean, dry and free from objectionable odour.

B.4 The Containers of star anise should be protected from moisture and rain during transportation.

B.5 The Containers of star anise should be carefully handled to avoid crushing.

Annex C
(informative)

Example of the gas chromatographic analysis of the volatile oil of star anise fruit



Operation conditions
Column: capillary, fused silica, length 60 m, internal diameter 0,24 mm
Stationary Phase: polyethylene glycol 20 000
Oven temperature: initially 80 ºC then increasing 2 ºC /min up to 180 ºC
Temperature of injector: 230 ºC
Temperature of detector: 230 ºC
Detector: flame ionization
Carrier gas: nitrogen
Volume injected: 0,2µ

Peak identification

1 α-Pinene
2 Carene
3 β-Pinene
4 α -Phellandrene
5 α -Terpinene
6 Limonene
7 1,8-Cineol
8 trans- β -Ocimene
9 Linalol
10 Terpinen-4-ol
11 Methylchavicol
12 α -Terpineol
13 cis-Anethol
14 trans-Anethol
15 Anisaldehyde
16 Methyl-iso-eugenol